

Application No.: 08/902,371
Filed: July 29, 1997

REMARKS

Applicant respectfully requests that this Amendment After Final Office Action be admitted under 37 C.R.F. § 1.116.

Applicant submits that this amendment presents claims in better form for consideration on appeal. Furthermore, applicant believes that consideration of this amendment could lead to favorable action that would remove one or more issues for appeal.

ALLOWABLE SUBJECT MATTER

Applicant gratefully acknowledges the Examiner's indication of allowability of claim 15, 28, and 30. Claims 15, 28, and 30 are amended to be rewritten in independent form including all of the limitations of their base claims and any intervening claims.

Claim 20 stands rejected under 35 U.S.C. 103(a). Applicant submits, however, that claim 20 sets forth "a thermally conductive fin located within said airflow, said heat pipe thermally coupled to said fin." This limitation is similar to that of claim 15, which was indicated as allowable. Since the references cited do not teach or suggest at least this limitation of independent claim 20, applicant respectfully submits that independent claim 20 (and its dependent claims 21 and 22) are also allowable.

REJECTIONS UNDER 35 U.S.C. 103(a)

Claims 12, 14, 20, 25 and 29 were rejected under 35 U.S.C. 103(a) as being unpatentable over Penniman et al. in view of Ohashi et al. Applicant respectfully submits that there is no teaching or suggestion in either Penniman et al. or Ohashi et al. to combine the references to arrive at the applicants claimed invention. Application respectfully submits that not only does Penniman teach

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away from the use of a fan, but Ohashi teaches away from adding another element such as a flat heat pipe that would increase the thickness of the case of the computer because Ohashi is directed to reducing the thickness of the case of a computer. Ohashi therefore teaches away from the use of a flat heat pipe attached to the bottom surface of the keyboard support plate.

Claim 13 was rejected under 35 U.S.C. 103(a) as being unpatentable over Penniman et al. in view of Ohashi et al. as applied to claim 12 above, and further in view of Carlsten et al. Applicant respectfully submits that for at least the reasons set forth above with respect to applicants independent claim 12, claim 13 is not rendered obvious by the references cited because claim 13 includes all the limitations of its respective independent claim 12 as well as additional limitations.

Claims 16-19 and 21-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Penniman et al. as applied to claims 12, 14, 20 and 25 above, in view of Ohashi et al. and in further view of Dinh et al. Applicant respectfully submits that for at least the reasons set forth above with respect to independent claims 12 and 20, dependent claim 16-19 and 21-22 are not rendered obvious by the references cited because claims 16-19 and 21-22 include all the limitations of their respective independent claims as well additional limitations.

Claims 26 and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Penniman et al. in view of Ohashi et al. Applicant respectfully submits that for at least the reasons set forth above with respect to independent claim 25, dependent claims 26 and 27 are not rendered obvious by Penniman in view of Ohashi because claims 26 and 27 include all the limitations of their independent claim 25 as well as additional limitations. Moreover, there is no teaching or suggestion to combine Penniman with Ohashi to provide a flat heat pipe covering at least about one half of the surface area of the bottom surface of

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the keyboard support plate (claim 26) or covering substantially the entire surface of the bottom surface of the keyboard support plate (claim 27).

The heat pipe of Penniman is a relatively small L shaped heat pipe that is secured to the keyboard heat sink. (See Penniman, Figures 2 and 3.) The backside surface of the keyboard is made of a rigid, somewhat thin layer of material. The layer is a thermally conductive material, such as aluminum. (See Penniman, col. 2, lines 42-47.) This thin layer serves as a heat sink. The heat pipe is mounted onto the heat sink.

Thus, Pennimun purports to solve the problem of drawing heat away from a CPU by transferring the heat via the heat pipe to the keyboard which acts as a heat sink. However, as applicant has noted at page 9 of the specification, the large thermal resistance across the thin cross section of the metal plate inhibits a substantially uniform distribution of heat that is needed for the higher heat generating components of today. The present invention addresses this problem by providing a flat heat pipe 210 along the bottom surface of the keyboard support plate 206. As a result of the flat heat pipe's negligible thermal resistance, heat is more uniformly distributed across the surface of the keyboard support plate 206.

With respect to the rejection of claims 26 and 27, the Office Action states that "any size flat heat pipe would accomplish the same purpose. There is no unobviousness in the flat heat pipe being different sizes so long as the same function is performed." Applicant respectfully submits that as discussed above, the function of the heat pipe of Penniman is merely to transfer heat to a heat sink, while applicant's claimed heat pipe distributes heat more uniformly across the surface of keyboard support plate than does the heat sink surface 28 of Penniman.

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In view of the foregoing amendments and remarks, applicant respectfully submits that all pending claims are in condition for allowance. Such allowance is respectfully requested.

PREVIOUSLY SUBMITTED INFORMATION DISCLOSURE STATEMENT

Applicant respectfully requests that the Information Disclosure Statement and cited documents submitted on September 23, 1999 be considered by the Examiner and the PTO-1449 form be initialed and a copy returned. Enclosed are copies of the Information Disclosure Statement, Form 1449, Certificate of Express Mail, and a copy of the return receipt postcard showing the receipt stamp of the Patent and Trademark Office dated September 23, 1999.

If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully requested to contact Joseph A. Twarowski at (408) 720-8300.

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Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due regarding this Amendment or to credit our account for any overpayment.

Respectfully submitted,

Date: December 13, 1999

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CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office on:

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